BASF Cranston - IRM for Sediment Removal from Pawtuxet River
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to:
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01/13/2012 03:42 PM
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Frank,

On December 14, 2011, we discussed a couple of minor changes to the procedures for the Cranston Sediment Removal IRM by phone. Of note, we propose to use "roll-off" containers with secondary containment for sediment dewatering, rather than constructing a dewatering pad.

The roll-off containers will be lined with polyethylene sheeting and placed as close to the excavation areas as possible. Prior to placement, the container site will be cleared and covered with 12 mil braided polyethylene sheets for secondary confinement. The container will be placed on the sheets, and then the sheets will be inspect to insure that they are not torn or punctured. The containers will be placed on blocks is such a way that the container is tilted to one corner, causing water toward that corner. A sump will be placed at the low corner to collect the water and drain it to a polyethylene holding tank.

Cement Kiln Dust (CKD) or polymer will be added to the sediment to accelerate the solidification process. CKD will also help prevent freezing because the hydration process is an exothermic process. It should also be noted that using CKD is a more sustainable process than using cement or lime because CKD is a byproduct material and it use lowers the carbon footprint of the project. If polymer is used, heating blankets may be necessary to prevent freezing of the sediment.

Using the containers to hold and dewater the sediment is a better approach than building a dewatering pad for several reasons:

1) The containers are more secure. The lined containers will be watertight, so the only way water can leave is through the sump. The walls of the container prevent accidental exposure, and the containers can be completely covered to prevent odor issues or to keep out precipitation.

2) It reduces the need for double handling the sediment prior to transport. If we build a dewatering pad, the excavated sediment will be deposited in a truck, which would bring it to the pad and unload it. Once the sediment was dry, it would be excavated again and placed into containers for transport. By placing the sediment directly into the containers, we eliminate the need for intermediate transport and re-excavation. This will reduce the amount of heavy vehicle traffic and the accompanying noise and exhaust. It also eliminates the need for building a dewatering pad, with associated clearing and grubbing, which reduces the erosion potential and ground disturbance.

3) Having the roll-offs next to the excavator will minimize the swing distance of the bucket, which minimizes the potential for sediment to drip from the bucket. In addition, the bucket can then be sprayed and cleaned in the roll-off prior to the next drop. And again, eliminating double handling reduces the potential for spills.

A second proposed change is with the turbidity meter that we use to monitor turbidity in the river. Rather than a flow through turbidity meter, we propose to use a YSI meter with a water intake that will be placed at the mid-point of the water column. All data will be collected in a field notebook.

Please do not hesitate to contact me at 978-905-2296 or 978-496-0589 should you have any concerns.

-Joanne Lynch